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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/022,190 | 12/17/2001 | Matthew Zavracky | 0717.2022-000 | 1518 |

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT PAPER NUMBER

2871

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,190

Applicant(s)

ZAVRACKY ET AL.

Examiner

Prasad R Akkapeddi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings filed on 12/17/2001 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recited limitation "LED emits a blue light through a phosphor coating to generate (or produce) a white light" is confusing. It is not clear whether the phosphor is emitting blue light or white light. 'LED emitting a blue light through a phosphor coating' could mean that there might be an internal phosphor coating in the LED to emit a blue light. If so, how is it generating white light?

4. Claims 28 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear or explained in the specification how an optically transparent spacer coupled to the display provides alignment of the display with respect to an optical element. As is commonly known that a spacer provides a cushion between the panel and the housing or a spacer such as a polarizer can also

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provide cushioning in addition to polarizing the incoming beam. The optic axis of the polarizer could be used as an alignment for aligning the optical element such as the panel. These points or any other position of the Applicant is not made clear in the instant application.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 14-15 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafrir et al. (Shafrir) (U.S. Patent No. 4,514,920).

Shafrir discloses a display module (10), a mounting apparatus (42) for a display panel (12) having a single alignment edge (col. 7, lines 14-15), the display panel (10) including an imaging area (12), a housing (40) having a display opening (42), a display alignment device (86) coupled to the housing (40), the display alignment device (86) capable of aligning the imaging area of the display panel with the display opening of the housing based on the single alignment edge (Figs. 2 and 3). Shafrir also discloses a non-jagged surface for the panel (12).

Shafrir discloses a display alignment device (86) to align the display panel (12) into the housing. However, Shafrir does not disclose a specific number for

alignment tolerance. But for any display panel to appear esthetically right for viewing, the panel has to be aligned with the housing within a certain accuracy and that accuracy depending upon the complexity of the display has to be within a small range (less than 2 degrees).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt a tolerance of less than 2° with respect to alignment with the display opening.

7. Claims 3-7, 16-20 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafrir in view of Paolini et al. (paolini) (US 2002/0167624).

Shafrir discloses a display module. However, Shafrir's display module does not include a light source, or a LED or a phosphor to generate white light.

Paolini on the other hand, in disclosing a backlight for a color LCD, discloses a light source, a blue LED (44) and a phosphor to form white light (paragraph 0052), a light pipe (40), a first diffuser and a roughened surface (second diffuser) (Page 4, para 0052 and 0053).

Both Shafrir and Paolini disclose optically transparent spacers (20, 22 in case of Shafrir) and 14 and 24 (in case of Paolini) (polarizers) coupled to the display panel. However, Shafrir does not disclose that the optically transparent spacer is coupled to the backlight of the display panel. Paolini does disclose that the optically transparent spacer (polarizing filter 14) is coupled to the backlight (Fig. 6). The polarization angle of the polarizer provides an alignment to the optical element or the display panel.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the backlight source as disclosed by Paolini to the display module of Shafrir to enhance the brightness, efficiency and the viewing angle of the display device (paragraphs 002 and 0019).

8. Claims 8-9 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafrir in view of Meyerhofer et al. (Meyerhofer) (U.S. Patent No. 5,619,373).

Shafrir does not disclose a lens positioned adjacent to the display opening nor does he disclose that the lens is a torro lens.

Meyerhofer in disclosing a optical system for head mounted displays, discloses a torroidal (torro) lens (370 a) in front of the display module (305).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the torroidal (torro) lens to equalize angular magnification in both directions (col. 3, lines 39-41).

9. Claims 10-13 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafrir in view of Klubenspies (U.S. Patent No. 6,335,864).

Shafrir discloses a vertical securing portion (56), a registration edge (42) and the alignment of the display panel with the hosing assembly (Figs. 2,3).

However, Shafrir does not disclose that the securing portion comprises a spring and ramp combination.

Klubenspies in disclosing an indicator module, discloses a spring (col. 4, line 41) and ramps (49,50,51) and a carrier (3) for holding the display module.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the specific mounting configuration consisting of a combination of a carrier, a spring and a ramp to hold the display with little force and improve reliability of fastening (col. 1, lines 40-54).

10. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafrir in view of Paolini.

Shafrir discloses the assembly of the module (10) (col. 4, lines 17-49) consisting of a display device with a housing, an opening (Figs. 2-3) and alignment of the panel with the housing.

Shafrir does not disclose a method of coupling a light source to the housing.

Paolini discloses a method of assembly of a color liquid crystal display consisting of a light source (pages 4 and 5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the light source disclosed by Paolini to the display device of Shafrir to enhance the brightness, efficiency and the viewing angle of the display device (paragraphs 002 and 0019).

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (a) Srivastava et al. (U.S. Patent No. 6,596,195): discloses a phosphor that produces white light when excited by a blue LED source (b) Soules et al. (U.S. Patent No. 6,580,097): discloses that a blue emitting LED is combined with a white emitting phosphor to produce white light (col. 5, lines 52-54).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

BRP
~~08/16/2003~~

RH Kim
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